

ADDITIONS TO THE CONIFEROUS FLORA OF NEW CALEDONIA

By J. T. BUCHHOLZ.

UNIVERSITY OF ILLINOIS

This contribution is devoted wholly to the description of some of the new species of conifers in my collections. In a later installment my other collections are to be listed.

**Araucaria humboldtensis** Buchholz sp. nov. (Sect. *Eutacta*).

*Arbor demum 12-15 m. alta, trunco 50 cm. basi crasso fere eramoso in caudicum apicalem abeunte. Ramis foliosis in parte suprema arboris, 1-1 1/2 m. longa, tantum impositis. Cortice pallide griseo sublaevi. Foliis adultis ad strobilos late ovatis, laxe imbricatis, margine denticulis minimis asperato, 6-7 mm. longis, 4-5 mm. latis, subcarinatis apice acutis, optime inflexis quapropter habitu primo intuitu obtusis, crassis (primo intuitu folia Araucariae columnaris statura simulantibus at ratione spirali diversis ramis valde crassioribus quam in specie illa fultis). Strobilis masculinis ignotis. Strobilis foemineis subsphaerice ovoideis ad apicem ramorum majorum pedunculis brevibus ca. 3 cm. longis fultis, maturis ad 8 cm. crassis, 9 cm. longis, aliquot verticillatim ad apices foliosos ramorum impositis. Strobili rachide cylindrico 7 cm. longo, 1-1,3 cm. crasso. Squamis cuneatis, marginibus valde delicatis ca. 3-4 mm. inter alias squamas productis, totis ca. 20 mm. latis, nudis, incrassatis, duris, parte seminari valde dilatata, latere abaxiali perconvexis, apice pungenti plano (tota longitudo squamae cum apice ca. 35 mm. longa). Ligula brevi, gracili, plana, 1 mm. longa, 3 mm. lata, minute apiculata ad squamam bene adpressa. Squamae apice complanato, pungente, 10 mm. longo e basi 2,5-3 mm. lata, 1 mm. crassas, subinde in strobilis immaturis incurvato, in adultis plus minusve patentibus.*

Mt. Humboldt, forming a forest belt of scattered trees that are conspicuous in rising above the angiosperm forest, at elevations between 1300 and 1.450 m. ; also isolated trees or small colonies on other high mountain crests. No. 1571 type collection (photo nat. size) 3 cones divided, part (a) in Herb. U. of Ill., (b) in Herb. Mus. Paris. and (c) in Herb. Arnold Arboretum. Plateau de la Montagne des Sources near Pic du Rocher No. 1206 at 980 m. ; Mt. Mou No. 1686, at 1.000 m., may represent a variety of form.

**Araucaria biramulata** Buchholz sp. nov. (Sect. *Eutacta*).

*Arbor ad 16 m. alta, truncis demum 70-80 cm. diametro, corona laxa rotundata. Cortice griseo, horizontaliter zonato. Ramis 4-5 verticillatis,*

*ramulis foliosis ad ramorum apicem corymbose dispositis. Ramulis irregulari ratione in serie duplici secus ramos orientibus, demum 30-40 cm. longis, 12 mm. (foliis inclusis) crassis. Foliis spiraliter impositis, crassis, ad strobilos ovato-lanceolatis, 8-9 mm. longis, 4-6 mm. latis, carinatis, nitidis, patentibus, basi late decurrentibus. Foliis in pedunculis strobilorum foemineorum majoribus. Foliis totis stomatibus utrinque insignitis. Foliis in ramis inferis sat crassis patentibusque, 4,5-6 mm. longis, 2-3 mm. latis, magis distantibus ramulis sat gracilibus fultis 2 mm. diametro crassis. Strobilis masculinis 6-7 cm. longis, 1,5-2 cm. crassis in apice ramulorum fultis, basi bracteis conferte imbricatis insignitis. Microsporophyllis 8-9 mm. longis, spatulatis, apice libero duro triangulari acuto, sporangiis 7-8 clongatis e margine inferiore apicis triangularis orientibus ca. 3,5 mm. longis, pedunculis ca. 4-5 mm. longis. Strobilo foemineo ovoideo 10 cm. longo, 9 cm. crasso, imposito ramis lateralibus crassis nempe pedunculis 5-8 cm. longis. Squamis late cuneatis ad suborbiculatis apice duro incrassato, utrinque ad medium valde dilatatis, marginibus valde dilatatis ca. 8 mm. vel ultra inter alias squamas procutis totis ca. 22 mm. latis 30 mm. longis (apice incluso in summa 35-40 mm. longis). Ligula triangulari delicata, margine apiceque acuto denticulata, parte centrali cum squamae confluenta. Strobili ob squamarum apices rigidos habitu spinascente. Strobili rachide plus minusve cylindrice clavato 10 mm. diametro, 12 mm. vel ultra in parte quam magis dilatata, apice obtuse rotundato.*

Plaine des Lacs : Forêt du Mois de Mai, above mine excavations 400 m. No. 1691, type collection, Herb. U. of Ill. ; Herb. Mus. Paris. ; duplicates distributed elsewhere. No. 1357 foliage of lower branches only.

The species name refers to the characteristic twice-branched character of the vegetative twigs.

**Araucaria Bernieri** Buchholz sp. nov. (Sect. *Eutacta*).

*Arbor ingens trunco ad basin ad 60-80 cm. crasso, demum ad 35 m. alta, habitu anguste cylindrica corona conferta vasiformis interdum inclinata. Ramis ad 4-6 regulariter verticillatis. Corona in speciminibus immaturis ad 7 m. altis conice rotundata. Foliis adultis ramulorum ad strobilos foemineos parvis crassis rigidis, subcarinatis, patentibus, 3 1/2 mm. longis, 2 mm. latis, spiraliter dispositis ramulos ad ca. 2 mm. crassos in toto obtegentibus. Ramulis in serie duplici e ramis majoribus utrinque ortis. Foliis plantularum seminalium 10-16 cm. altorum subulatis, 8-10 mm. longis, 4-angulis, verticaliterque appianatis, patentibus (apice permodice inflexis). Foliis arborum versus inflexum citius angustatis, 3-4 mm. longis, bene discretis, haud arcte imbricatis. Strobilis masculinis apice ramulorum impositis cylindricis 7-9 cm. longis ca. 8 mm. crassis maturis albo-glaucis. Microsporophyllis 3 1/2-4 mm. longis, oblique peltatis pedunculis 2,5-3 mm. longis in rachidem angulo fere recto confluentibus, parte peltata dura crassa, apice libero late obtuso, microsporangia 4-6 ab 2-2 1/2 mm. longa inferiore margine ferente. Strobilis foemineis cylindrico-ovoideis ad 10 cm. longis, maturis ad 8 cm. crassis, raro singulis, saepius 2-3 vel 3-7 aggregatis ad ramorum majorum apices indumento albicante cereo glaucis (strobilis immaturis saepius obovoideis.*

vel piriformibus). Squamae obovato-cuneatae circa 30 mm. longae (subulato apice excluso, 5-6 mm. longo), 25-28 mm. latae (marginibus valde delicatis ca. 10-12 mm. inclusis). Convexa externe incrassata sicutque transverse carinata, parti seminari dilatata. Ligula ovata-triangularis, gracilis, apice brunneo, bene adpressa, parti centrali squama cum confluenti.

Southern New Caledonia, Plaine des Lacs at headwaters branch of Riviere des Pirogues, Valley of Poueta Kouié near Pic Casse-Cou and Pic Busse. No. 1562 *type* in Herb. U. of Ill. : parts in Herb. Mus. Paris. and elsewhere. No. 1562 A, lower regenerated branches, 1562 B, 1688, juvenile foliage, small tree 2-3 m. tall ; 1562 S, small seedling. (All from Lucien sawmill, headwaters of river des Pirogues). No. 1061, seedling 1/2 m. high near Pic Busse. *Bernier* s. n., presumably from near Lucien sawmill, male cones, immature female cones and other fragments collected in August, 1947.

Dedicated to the Bernier family. Julien Bernier was the first Conservator of the New Caledonian Museum in Noumea. His schollary contributions were contained chiefly in a book : *Etude sur les Dialectes Néo-Calédoniens, Australiens et autres*, pp. 210, Nouméa, 1899. However he contributed very substantially to the botany of the island by his employment of Cribbs as botanical collector during 1898-1905. His son J. Bernier, born in New Caledonia, now a citizen of Metropolitan France, whom I met while he was visiting New Caledonia in 1947, had collected earlier somewhat fragmentary specimens of this *Araucaria*. He brought this entity to my attention insisting that he believed this tree to differ from *A. Balansae*, the nearest related species.

With this opinion I came to agree after having collected typical specimens of *Araucaria Balansae* and the other known species of *Araucaria*. The clustered white cones of this tree, as it may be seen along the road to Montagne des Sources near Pic Busse and Pic Casse Cou had come to my notice during my first week in New Caledonia, but at this site the trees are too large and tall to be climbed. Only the seedling No. 1061 was collected.

### ***Acmopyle alba* Buchholz sp. nov.**

*Arbor dioica, adulta 4-5 m. vel ultra alta, trunco 8 cm. vel ultra diametro, cortice sublaevi, dilute brunneo, 2 mm. crasso, griseo variegato, ligno albicante. Foliis verticilliter complanatis, ramo spiraliter impositis at habitu pectinatis. Foliis adultis laeviter obliquis, supra pallide viridibus, subtus perglaucis subalbidis, ratione varia amphistomaticis ; facie infera stomatibus in seriebus 30-40 confertis, margine exstomatifero angusto, interdum zona nuda ad costam, stomatibus in facie supra sparsis foliorum plurimum. Ramis sexualibus foliis praeditis nec ultra 7-20 mm. longis, 1-2 mm. latis, ramo ramulis sexualibus cylindricis coronato 1,5-2 mm diametro, 1-2 cm. longis ; ramulis sexualibus squamis acutis adpressis spiraliter impositis, verticaliter haud applanatis insignitis, apice strobilis masculinos vel foemineos ferentibus. Foliis in ramis asexualibus arboribusque juvenilibus vatte longioribus, ad 25 mm. longis, saepius autem 2,5 mm. latis, bene utrinque*

*falcatis, apicibus acutis incurvis. Strobilis masculinis albido-glaucis, cylindricis, 20-28 mm. longis, 3-3,5 mm. crassis, ramulis sexualibus e ramis lateralibus ortis fultis (strobilis masculinis in hac specie duplo quam in A. Pancheri longioribus ac latoribus). Microsporophyllis spiraliter impositis, apiculo hastatim subtus dilatato, supra acuto, basi dilatatis sporangia elongata ferentibus, dehiscencia cum pedicello parallela. Strobilis foemineis apice ramulis cylindricis sexualibus fultis, 12-18 mm. longis, squamis sterilibus 7-9 confluentibus in receptaculum carnosum, squama apicali fertili ovulo 1 insignata. Semine subsphaerico ad 11 mm. diametro, micropyllo subterminali, epimatio cum seminis tegumento carnosum confluate.*

Plaine des Lacs, Forêt du Mois de Mai, on slopes at elevations 150-300 m. No. 1704 *type* in Herb. U. of Ill.; Herb. Mus. Paris.; duplicates elsewhere. Nos. 1698, 1698 L, 1354, 1388 intermediate or juvenile foliage of small trees, detached pollen cones; 1388 a seedling.

**Dacrydium Guillauminii** Buchholz sp. nov.

*Arbuscula 1,5 m. vel ultra alta, irunco basi incrassato. Cortice saturate brunneo vel subnigro, 3-4 mm. crasso lenticellis numerosis validis conjunctis asperato. Ramis conferte iterum ramosis coronam corymbosam formantibus 35-40 cm. diametro. Ramis undique orientibus e rami majore ca. 2 cm. diametro, vetustioribus deciduis longitudinem 20-25 cm. assecutis. Ramis undique foliosis Piceae sp. simulantibus foliis ramorum truncique 9-12 annis persistentius vel ultra; ramis minoribus 3,5-4,5 mm. crassis, foliorum basibus incrassatis onustis. Foliis subulatis, arcuatis, in vivo subteretibus at siccis plus minusve angulatis, sulcis 4 : 2 superioribus, reliquis inferioribus secus costam utrinque impositis, uno quoque stomatum seriebus aliquot insignito, pungentibus, spiraliter impositis 13-17 mm. longis, ad 1 mm. latis e basi incrassata, annos multos persistentibus. Strobilis masculinis subterminalibus sessilibus 12 mm. vel ultra longis, 4 mm. crassis; microsporophyllis numerosis ratione spirali rachide gracili 7 mm. longo impositis. Microsporophyllis breviter pedunculatis, foliis similibus apice laminari linearique, foliis similibus sed minoribus (ca. 5 mm. longis), magis pungentibus basinque versus marginibus laevissime erosis, ad basim lateraliter sporangiis duobus insignatis. Strobilis foemineis habitu ramulos breves laterales sessiles subterminales in mentem vocantibus ex apice ramorum ventustiorum. Strobili axi ca. 3 mm. longo totidemque fere crasso, squamas ca. 20 erectas spirali ratione dispositas ferente. Squamis planis, late triangularibus ad basim ceteroque subulatis, pungentibus 10-13 mm. longis, 0,5 mm. supra base dilatata latis. Squamis 3-5 e superis fertilibus, latere adaxiali ovulo oblique lageniformi insignatis, tegumento apice dilatato, labio infero ad micropylem spectante quam magis. Nucello integumento bene circumdato; ovulo epimatio e tribus lateribus involucreto, margine haud eroso neque lobato at cucullato. Semine mature ignoto.*

Plaine des Lacs : On banks of Rivière des Lacs near mine Anna-Madeleine. No. 1278 *type* in Herb. U. Of Ill., parts in Herb. Mus. Paris., duplicates distributed elsewhere.

Prof. A. GUILLAUMIN has contributed part of this description having to do with the male cones. I am happy to dedicate this species to him.

**Libocedrus Chevalieri** Buchholz sp. nov.

*Arbuscula ad 2-5 m. alta, habitu fruticoso, coma rotundata, trunco ad 10 cm. diametro, ramis toto vestito, cortice saturate badio, 2-4 mm. crasso, longitudinaliter rimoso, exfoliante. Ramis cortice laevi saturate badio infra exfoliante, ad ramulos atrocinereo, ramulis foliorum basibus vestitis apice bene foliatis. Ramulis frondiformibus compositis ramos coronantibus Foliis in arbore adulta opposite decussatis, 4-seriatis subrhombice tetragonis marginalibus paulo quam facialibus latioribus; foliis marginalibus 3,5 mm. longis, late triangularibus complicatis, facialibus triangularibus, acutis, ad 3 mm. longis, apice ad 2 mm. liberis; foliis omnibus amphistomaticis. Ramulis ultimis a ramo majore centrali serie alterna orientibus. Strobilis masculinis 8-10 mm. longis ca. 4 mm. latis apice ramulorum ultimorum simplicium impositis. Microsporophyllis 4-sporangiis, 16-18 opposite decussatis late ovatis, cuspidate acutis, extus convexis, intus concavis, marginibus denticulatis peltatim impositis. Strobilis foemineis ad 16 mm. longis (aculeis inclusis), ramulis lateralibus impositis, jugo squamarum fertilium cuneatarum 12 mm. longo, 6-7 mm. lato efformato, aculeo gracili cylindrico 6-8 mm. longo. Ovulis basi squamae impositis. Jugo squamarum altero oblanceolato, 9-10 mm. longo 2-3 mm. lato; jugo tertio quartove in folia transeunte. Semine erecto lageniformi vel fusiformi 7 mm. longo, 2-4 mm. crasso base squamae fertilis lateraliter imposito, alis una parva, reliqua majori praedito.*

Western slopes of Mt. Humboldt 1.450-1.550 m. No. 1567, specimens with male and female cones (collected by Luc Chevalier), type in Herb. U. of Ill.; parts of collection in Herb. Mus. Paris.; with duplicates elsewhere; No. 1567 s, seedlings and small plant; also photo nat. size of type collection<sup>1</sup>.

Schlechter 15,333 Herb. Mus. Paris. (only a small segment of twig seen) represents part of a sterile juvenile specimen collected at 1.400 m. In reporting on this collection, Schlechter inadvertently transcribed the name as *L. neocaledonicus* where he must have intended to write the name of the only known species: *L. austrocaledonicus* Brongn. & Gris, which had been collected by Balansa on the eastern slopes of Mt. Humboldt at 1.100 m. He gave no description. The name *L. neocaledonicus* Schlechter is therefore *nomen nudum*. As a synonym it belongs under this new species.

Dedicated to Mr. Luc Chevalier, conservator of the New Caledonian Museum in Nouméa. He was born in New Caledonia Oct. 25, 1922, educated in the Brothers' schools and graduated from College La Pérouse with the first baccalaureate in Dec. 1941. He enlisted as a private in the Volunteer French Colonial Army in 1942, was promoted to chief sargent

1. Trouvé pour la première fois par VIROT en 1940, n° 422 [A. GUILLAUMIN].

and mustered out in 1946. He has climbed many of the highest peaks in New Caledonia including Mt. Panié.

Mr. Chevalier was leader of an expedition to Mt. Humboldt which I organized and promoted in Dec. 1947. In company with two natives Marengo and Victor of Tribu Bangou as guides, he and my helper Moenadji, a Javanese, reached the summit of Mt. Humboldt on December 27-28, 1947 in a successful approach from Mt. Vulcain. This trail made across very rugged ridges has no springs and required 28 liters of water carried over a 20 km. trail to a campsite at 1.300 m. on a 2 day trip. While others had previously climbed Mt. Humboldt from the west by two different routes, this was the first successful ascent using a trail from the end of the road to 600 m. at mine Gallini on Mt. Vulcain.

**Podocarpus Comptonii** Buchholz sp. nov. (Sect. *Polypodiopsis*).

*Arbor dioica ad 10-12 m. alta, trunco ad 80 cm. vel ultra diametro deorsum parcius, seorsum conferte ramosa. Cortice brunneo, demum griseo, longitudinaliter rimoso, 1 cm. vel ultra crasso in ramis junioribus fuscocinereo vel viridi. Ramis erectis vel adscendentibus, junioribus opposite ramulosis, adultioribus dissitis. Alabastris nudis, squamis carentibus, foliis minimis involucreatis. Foliis opposite decussatis, 4-seriatis, lanceolatis, obtusis, 7-15 mm. longis, 2-5 mm. latis, siccis 1/2 mm. crassis, sessilibus, decurrentibus, costa singula pro more occulta; foliis amphistomaticis stomatibus in facie supera quam in infera magis numerosis. Costa in foliis coctis translucidis factis perspicua, minus quam 1/4 latitudinis laminarum adularum; in foliis juvenilibus arctiore minus quam 1/6 laminae latitudinis. Strobilis masculinis apicalibus, in ramulis lateralibus, sessilibus, ovoideis, 5-6 mm. longis, 3 mm. diametro. Microsporophyllis sporangia 2 sub apice triangulari excurvato ferentibus, polline 2-alato. Strobilis foemineis apicalibus ramis lateralibus fultis bracteis 3-4 parvis oppositis sterilibus axi ca. 10 mm. longo impositis, bracteis superis inaequalibus, squama summa ovulo singulo anatropo adaxiali insignita, altera sterili angustiore; receptaculo parvo 4-5 mm. longo, 2 mm. crasso; semine breviter pyriformi-obovoideo epimatios carnoso circumdato, 25 mm. longo, 18-20 mm. crasso, maturo rubro; nucem 20-22 mm. longa 16 mm. crassa, rostro incrassato in carinas laterales abeunte, recto vel interdum lateraliter curvato.*

Differt a *P. minori*, arbore alta, adultis foliis tenuioribus, distichis quam 4 seriatis; costa in folio minus quam 1/4 latitudinis laminarum adularum; semine ovoideo-magis quam conice pyriformi; ligno pallido fusco magis quam fulvo.

In mountains at elevations up to 1.300 m. Mt. Mou No. 1684, (type in Herb. U. of Ill., duplicates in Herb. Mus. Paris. and elsewhere; Nos. 1085, 1449, Mt. Mou; Mt. Humboldt. No. 1697 (seed kernels and seedlings). Specimens by Compton Nos. 306, 1524, 1587 in Herb. Brit. Mus. not seen, presumed to be this species.

**Podocarpus palustris** Buchholz sp. nov. (sect. *Polypodiopsis*).

*Arbuscula dioica, enana, amphibia, ad 2-3 m. alta, trunco ad basim 35-50 cm. incrassato; ramis numerosis, adscendentibus. Cortice brunneo vel*

*atrocinerio. Ramis juvenilibus oppositis, adultis dissitis. Foliis opposite decussatis, adscendentibus, 4-seriatis, ovali-ellipticis, obtusis, plerumque 8-16 mm. longis, 3-5 mm. latis, siccis ca. 1 mm. crassis, costa singula haud obvia revera folii dimidio lata. Stomatibus in facie utraque folii, subtus duplo quam supra numerosioribus. Strobilis masculinis 3-5 aggregatis, pedunculis bracteatis 1-1 1/2 mm. longis fultis, adultis 5-6 mm. longis, 2 1/2-3 mm. latis. Sporophyllis ca. 30 imbricatis, microsporangis abaxialibus 2, apice late hastatis, polline 2 alato, dehiscencia longitudinali. Strobilis foemineis apice ramorum lateralium fultis, axi squamis numero vario 2-jugis decorato, squama suprema tantum ovulo uncio insignita, ovulo magno, anatropo; axi 4-6 mm. longo, squamis in seriebus verticalibus 4 1/2-1 mm. longis 0,3-0,5 mm. latis; receptaculo parvo, 2 mm. tantum longo; ovulo ovoideo oblique reflexo, minute cristato. Semine 15-18 mm. longo, 12-14 mm. lato, epimatio non rubro sed griseo; nuculae rostro brevius latius conico recurvato.*

*Species a P. minori differt ad quem proxima est caudicibus deorsum magnis, ligno albicante (0,3 tantum denso), seminibus crassioribus brevioribusque bene reflexis, bracteis ad strobili pediculum minoribus, receptaculo 2 mm. tantum longo, nuculae rostro breviori, latius conico, recurvato. Foliis pro more ratione longitudinis latioribus, siccis marginibus minus crassis, ramulis hornotinis deciduis, foliolis 2-6 mm. longis, 1-3 mm. latis vestitis.*

Growing in water of small lakes or widened streams, tributary to Yate river or along wet banks of streams, Plaine des Laes, also near Prony Bay. No. 1421, Plaine des Laes : 22 km. Station, *type collection* with seeds, Herb. U. of Ill. and part in Herb. Mus. Paris. ; 1347, 1348 with male cones, 1474 photograph, same place. *Franc* 207 ser A, Prony (Herb. U. of Calif.).

**Podocarpus sylvestris** Buchholz sp. nov. (Sect. *Eupodocarpus*).

*Arbor dioica, 15-18 m. alta trunco ultra 1 m. crasso. Cortice rubrobrunneo longitudinaliter rimoso, ca. 1 cm. crasso, aetate griseo. Ramulis gracillimis, subverticillatim dispositis, 1,5-2 mm. diametro. Alabastris apicalibus sphaericis ovoideisve, solitariis ternatisve, squamis adpresse imbricatis, gracilibus, subcarinatis, ovatis apiculatis obtusisve. Foliis 5-8 cm. longis, 7-9 mm. crassis, spiraliter dispositis ad ramulorum apices confertioribus, in ramis ultimis arborum majorum lineari-lanceolatis sursum dilatatis apice obtuse rotundatis, subtus in petiolum breve abeuntibus, laete nitideque viridibus, subtus pallidioribus haud nitidis, stomatibus in facie infra tantum obviis. Ductis resiniferis 3 infra vasi phloemate. Foliis in speciminibus immaturis vel minoribus ad 16 cm. longis, 15 mm. latis. Strobilis masculinis pro more sessilibus in pedunculo ca. 1 mm. longo ternatis, cylindricis, 8-16 mm. longis, 2-2,5 mm. crassis, squamulis 7-9 imbricatis deorsum circumdatatis. Microsporophyllis spiraliter impositis, apiculo scarioso obtuse, sporangii 2 abaxialibus, dehiscencia longitudinali; polline bialato, 24-28  $\mu$  longis, 45-50  $\mu$  latis. Strobilis foemineis axillaribus, pedunculo 4-8 mm. longo, strobilo ipso e squamis 2 inaequalibus coalescentibus receptaculum efformantibus, 6-7 mm. longo, squama supera tantum ovulum anatropum*

*gerente, bracteis binis 2 caducis. Semine elongato, ca. 13 mm. longo 8-9 mm. crasso, crista minuta vel nulla.*

Scattered in intermediate angiosperm forests of southern New Caledonia at elevations of 300-400 m.; on Plaine des Lacs at 160-300 m. No. 1696 *type collection* with seeds in Herb. of U. of Ill. and Herb. Mus. Paris. with duplicates distributed elsewhere, Plaine des Lacs : Forêt du Mois de Mai; 1351 male specimens with pollen cones still in buds; 1352 with seeds; 1360, 1372 foliage of juvenile specimens all from same locality. *Bernier* (in Aug. 1947) same locality. Baie des Pirogues. *White* 2118 Herb. Arn. Arboretum and Mus. Paris. Forest on slopes north of St. Louis. No. 1233, sterile. Mt. Canala, *Compton*, 1273, Herb. Brit. Mus.

*Département de Botanique, Université d'Illinois (Urbana) U. S. A.  
et Laboratoire de Culture du Muséum.*